

Fall 2013

# The Effect On Cumulative Language Acquisition Increase For English Language Learner Students In Kindergarten Through Third Grade Who Attended Multiple Years Of Summer Remediation Programs

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**PURDUE UNIVERSITY**  
**GRADUATE SCHOOL**  
**Thesis/Dissertation Acceptance**

This is to certify that the thesis/dissertation prepared

By Gregory A Baker

Entitled

THE EFFECT ON CUMULATIVE LANGUAGE ACQUISITION INCREASE FOR ENGLISH  
LANGUAGE LEARNER STUDENTS IN KINDERGARTEN THROUGH THIRD GRADE WHO AT

For the degree of Doctor of Philosophy

Is approved by the final examining committee:

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Approved by Major Professor(s): Marilyn Hirth

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Head of the Graduate Program

11/15/2013

Date

THE EFFECT ON CUMULATIVE LANGUAGE ACQUISITION INCREASE FOR  
ENGLISH LANGUAGE LEARNER STUDENTS IN KINDERGARTEN THROUGH  
THIRD GRADE WHO ATTENDED MULTIPLE YEARS OF SUMMER  
REMEDATION PROGRAMS

A Dissertation

Submitted to the Faculty

of

Purdue University

by

Gregory A Baker

In Partial Fulfillment of the

Requirements for the Degree

of

Doctor of Philosophy

December 2013

Purdue University

West Lafayette, Indiana

For my family.

I have been blessed with a wonderful person who is my best friend, wife, and greatest supporter. She has been ever encouraging, supportive, and inspiring to me in my academic endeavors. I would not be where I am at today without her. Thank you, Kristina.

I am thankful for my daughters, Lauren and Allison, who have understood why Daddy could not do all the things they wanted. They never complained and always encouraged.

I love you, my angels.

## ACKNOWLEDGMENTS

There are several people in the educational community who have encouraged and inspired me to pursue my doctorate. I would like to thank Dr. Dennis VanDuyne who was the first person who suggested I start down this long and arduous road. He has been a mentor and a role model to me.

Mr. Nathan Lowe has been to me a fellow educator, administrator, boss, and doctoral student. However, he has always been a friend. Thanks for the many discussions we have had as we ran the dusty miles of Tri County Game Preserve. Thanks for comparing time stamps on class projects to see who stayed up the latest and being there with me through every class, paper, and project. And do not forget the homemade salsa.

Sharon Cripe, provided all the help when I had questions about where to obtain data or how to manipulate the student management database program. I could call her any time of day, she always had time to help, and she was very patient when I had to have it explained over and over.

Kristina Baker provided all of the assistance on the writing portion of my dissertation. Your expertise was invaluable.

Mr. Mike Burke and Mrs. Amanda Nine, thank you for supporting me by taking some of responsibilities of operating a high school off my shoulders, so I could spend time with my family while finishing my dissertation. You will never know how much that meant to me.

I would be remiss if I did not thank all of the wonderful professors who have shepherded me through this adventure. Thanks Drs. Hirth, McInerney, Freeland, and Bennett. You were all great.

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## ABSTRACT

Baker, Gregory A. Ph.D., Purdue University, December 2013. The Effect On Cumulative Language Acquisition Increase For English Language Learner Students In Kindergarten Through Third Grade Who Attended Multiple Years Of Summer Remediation Programs. Major Professor: Marilyn A. Hirth

Already academically at risk, students in the rapidly growing English Language Learner (ELL) student population in the United States face additional challenges due to regression of English language acquisition over the average ten-week agrarian summer break when they return to homes in which Spanish was the primary language spoken. While the influence of summer learning loss has been investigated in different contexts with different populations of students little, has been done to study the effect of summer learning loss with ELL students (Alexander, Entwisle, & Linda Steffel, 2007; Cooper, Valentine, & Charlton, 2003; Geoffrey D. Borman, James Benson, & Laura T. Overman, 2005).

This study has researched the influence, as quantified by Language Assessment Scale Links (LAS) testing, of attending multiple years of summer remediation programs on the English acquisition of students. A cohort group of 349 students from a rural northeastern Indiana school corporation was chosen from the kindergarten, first, second,

and third grades in 2009. These students were followed for four years during which time they attended one or more years of summer remediation. Student LAS scores were tracked over the four-year period to assess English acquisition performance, and these were compared to a control group that did not attend any summer remediation. At the end of the four years, student scores were analyzed to ascertain if attendance in the summer remediation programs had an influence on English acquisition.

Overall, there was a significant difference between the summer elementary school students and the non-summer elementary school students' LAS raw scores, with the non-summer school students out performing their summer school counterparts. Those students recommended for summer school were those who were identified as needing additional academic and linguistic remedial help, which was reflected in these data. Research data also indicated that a significant majority of all students regardless of summer school attendance were not progressing from basic levels of language acquisition to fluency as rated by LAS Links assessment protocol used by the corporation to Level 5 that according to LAS Links is considered a fluent English learner.

## **CHAPTER 1. INTRODUCTION**

According to the US Census Bureau, the number of residents in Indiana who claim Hispanic origin has risen from 214,546 in 2000 to 389,707 in 2010. This increase was also reflected in the public schools with the number of Hispanic students increasing from 60,067 in 2005-06 to 93,003 in 2011-12. This increase was also mirrored in the number of students who qualified as English Language Learners (ELL) with the numbers increasing from 33,063 in 2005-06 to 50,988 in 2011-12.

Already academically at risk, this rapidly growing ELL student population faces additional challenges due to regression of English language acquisition over the average ten-week agrarian summer break when they return to homes in which Spanish was the primary language spoken. While the influence of summer learning loss has been investigated in different contexts with different populations of students, little has been done to study the effect of summer learning loss with ELL students (Alexander, et al., 2007; Cooper, et al., 2003; Geoffrey D. Borman, et al., 2005). ELL elementary students who return from the summer break can experience summer reading losses of one quarter to one half a grade level (D. Schermerhorn, personal communication, April 10, 2011). Fifty-eight percent of students who come from a low Socioeconomic Status (SES) background fall below fourth grade proficiency levels in reading and vocabulary with the

grade levels of second and fourth being the most important for vocabulary development (Alexander, et al., 2007; Mraz, 2007).

The summer learning loss experienced by the students requires that limited class time must be utilized for remediation. This also creates a challenge for the educators: determining if the entire class should wait for the struggling readers, differentiating instruction and causing the achievement gap to widen, or placing struggling readers in segregated instructional groupings. Each of the questions creates an educational dilemma for at least one group of students. Standardized tests such as ISTEP, Indiana's high-stakes achievement test, and IREAD, Indiana's high-stakes third grade reading test, are based on the standards for each particular grade level, and therefore, a student theoretically should master all the standards for a particular grade prior to taking the exam. However, an ELL student who regresses one quarter to one half of a grade level over the course of the summer will need to regain all lost material plus keep pace and acquire current grade-level knowledge.

School corporations in response to the increased accountability placed on them for students to pass educational benchmark testing such as ISTEP or the newly implemented IREAD, that requires passage before advancement to fourth grade, schools have switched to targeted intervention for those students failing to meet standardized test requirements. At the school district where the research was conducted, those students who failed to meet state requirements on the IREAD were the only third-grade students invited to the summer school program. In previous years, the program invited students who were struggling with any aspect of learning. The program changed focus at the third

grade level from a more comprehensive approach that incorporated different disciplines to one that focused on reading and preparing the students for the summer retake of the IREAD test.

This targeted intervention has the potential of limiting the number of students enrolled in summer school and limiting the grade level opportunities provided to students due to decreases in educational funding from the state along with revenue restrictions from the 1% property tax cap. The Indiana 1% tax cap referendum was passed in November 2012 to minimize the tax burden on citizens; however, it had the effect of lowering revenues to local entities such as schools and libraries.

When properties are assessed with lower values, less revenue is generated. Therefore, the tax rate must be increased to generate sufficient amounts of revenue to supply local taxing agencies. As a result, tax rates increase in poorer areas and businesses will likely move to more affluent areas that, due to the higher assessed value of all properties. Higher assessed property values generate more revenue and this allows localities to have an overall lower tax rate. This has the adverse effect of driving assessed values lower in poorer tax districts which, in turn, requires tax rates to increase to generate required funds. When the tax cap circuit breaker is tripped, no further increases are allowed, and local entities must reduce expenditures due to decreased funding. The tax cap is especially detrimental to those schools located in impoverished areas with low assessed values placed on property, and reduced funding in low income areas directly impacts the capacity of schools to offer summer learning options without aid from



governmental agencies or private sector grants (D. VanDuyne, personal communication, September 14, 2012).

### **Studies That Have Addressed the Problem**

The short-term ramifications of summer learning loss have been documented in various studies that were instituted with different political, social, and educational outcomes in mind. As a solution to poor academic performance, schools are starting to switch to balanced calendars (BC) or as commonly and incorrectly called Year-Round Education (YRE) as a way to improve academic performance (Davies & Trevor, 1999).

Balanced calendars (BC) have grown in popularity in recent decades from 410 schools in 1985 using this method to 2,764 public schools in 2007 (Donohue & Miller, 2008) . There are several nomenclatures that are used to describe this type of educational calendar. This type of schedule can be referenced as modified, non-traditional, balanced, or year-round. They are all used to describe a school calendar that does not have the traditional agrarian summer break that extends from late May to late August or early September. In most school corporations, the BC students do not attend school any longer than students following traditional calendars. Summer break in a balanced calendar is shorter in duration with longer fall and spring breaks. Traditional calendars have a long summer break during which proponents of BC insist that summer learning loss or regression takes place.

Calendars can be based on a traditional quarter system or trimester. The most common configurations for these types of schedules would have schools on a quarter

system with a 45-day teaching schedule and a 15-day break. In a trimester system, students attend 60 days with a 20-day break (St. Gerard, 2007). During the breaks, students who are indentified as in need of remediation will be helped through intervention services known as inter-sessions. The most common configurations in this type of calendar are a multi-track schedule and a school-wide schedule. In the multi-track school, the student body is divided into four separate groups and at any given time, there will be one group that is on break. This has been done mainly to alleviate overcrowding in school districts that have experienced rapid population increases but are unable to afford expensive building projects (McMillen, 2001). The school-wide schedule has mainly been implemented as an attempt to improve student learning, and all students are on the same schedule.

Indiana's second largest school district, Indianapolis Public Schools, voted to approve a balanced calendar for the 2011-12 school year. The main reason put forth for the change was to provide extra learning opportunities for the at-risk students during the extended breaks built into a balanced calendar (Indianapolis Public Schools, 2012). The body of evidence indicates BC schooling has positive effects on student learning when scores are compared with students with the same gender, SES, ethnicity and ability level. The research that was encountered was concentrated on the subject of summer learning loss and the comparison of data from traditional and non-traditional schedules (McMillen, 2001). The main findings of this aspect of the research were that while there is some conflicting of these data, there does appear to be a general consensus, that there is summer learning loss, and that some students tend to benefit from BC. Scores received on

the Texas Assessment of Academic Skills (TAAS), in reading were higher for those students participating in BC and show that female Hispanic students had gains in two years of the three-year study (Cooper, Nye, Charlton, Lindsay, & Greathouse, 1996).

The political aspect, while not important in the scope of educational viability of a program, is extremely important in the transformational leadership aspect of converting from the traditional school calendar. The literature encountered varied in extremes from political rhetoric to the educational leadership aspect of how to approach a politically sensitive topic and promote what is deemed important for the education of students (Lewis & McDonald, 2001; Rubin, 1998).

Research indicated that students from low SES were affected to a greater degree than their counterparts by summer learning loss; however, there was little mention of students who also faced the barrier of language acquisition. One study concentrated on disadvantaged Mexican-American families, and the results showed that these students lost four tenths of a standard deviation in reading over the course of the summer (Alexander, et al., 2007; Cooper, et al., 1996). All studies focused on math and reading scores, and these two areas were broken down into their component parts. However, the area of reading loss was not specifically or adequately addressed in connection with students of low SES and English as a New Language (ENL). According to the 2010 Census, the Hispanic population in the United States increased from the 2000 census by 15.2 million with many of these immigrants residing in communities with existing Hispanic populations (US Census Bureau). This population increase has caused

demographic shifts in school corporations that must find new ways to meet Annual Yearly Progress.

One of the unexpected outcomes of the switch to BC schedules was the overall satisfaction of the students, staff, and parents to the change in schedules (Ballinger, 2000; St. Gerard, 2007). Although there was normally resistance or reluctance to abandon the traditional school calendar, through leadership and community involvement leaders were able to garner support for the transformation (Lewis & McDonald, 2001). When the topic of a balanced calendar was mentioned in the public session of a school board meeting at West Noble School Corporation, the immediate response from a board member was that he would never vote for it because his children played summer club sports. The importance of researching the topic of summer learning loss was to verify the influence of a continued and systematic exposure to English language and English language skills.

Perhaps the best proponent for summer intervention was found in the meta-analytical study led by Cooper that found that .10 standard deviation loss from spring to fall testing. In addition, that evidence suggests that lower SES students do receive an academic benefit from modified calendars (Cooper, et al., 1996). Research also indicates there was a cumulative effect in summer learning loss that widens the achievement gap when students are in high school (Donohue & Miller, 2008).

The body of research evidence indicates that SLL has a cumulative effect on students as they progress through school, and this effect has a more profound impact on students from a lower socioeconomic status than their higher SES counterparts. Several studies documented accumulated learning losses from elementary school through ninth

grade and were targeted at assessing different cognitive abilities. Overall, educational comprehension, as quantified by the California Achievement Test, demonstrated an accumulated achievement scale difference of 133.04 by the ninth grade increasing from a difference of 42.98 in first grade, and other studies demonstrated reading losses that are equivalent to 1.5 years by the time a student reaches the ninth grade (Alexander, et al., 2007; Mraz, 2007).

### **Deficiencies in the Studies**

The research into SLL has existed for over a century and has in the last two decades increased in number and specificity; however, there are shortcomings in the research. While many studies compared the differences between SES categories, race, or ethnicity, there appears to be a gap in the research that addresses the cumulative effect on the language acquisition abilities of ELL students that are native Spanish language speakers over the course of summer break.

Research has been conducted that acknowledges Hispanic student achievement gains when enrolled in school corporations that have adopted balanced calendars (Cooper, et al., 1996). Student language acquisition data from those who return to homes for the summer break where Spanish is the main language spoken has not been studied in comparison to those enrolled in some type of summer school or enrichment program. There has been research completed by organizations, such as libraries and non-profit organizations in conjunction with public schools that promote summer reading programs as ways to counter SLL. This has been instituted in a variety of ways by providing, in combination with academic curriculum, a framework of enrichment programs for lower

SES students that would compare to that of more affluent students (Donohue & Miller, 2008; Fiore, 2010; Smink, 2011; Smith, 2011).

### **The significance of the Study for Particular Audiences**

The effects and consequences of summer learning loss have far reaching consequences for a variety of stakeholders in public education. The primary group affected by summer learning loss was the segment of the student body that also faces other adversities and obstacles to learning, such as poverty or being an English language learner. These students, due to their circumstances, are more likely to experience larger attainment losses over the summer vacation period. Students are required to take and pass more standardized tests to progress through the school system and to meet the requirements for receiving a diploma (Indiana Department of Education, 2012). In addition to the academic consequences of the testing, were the emotional and personal stresses that students experience when informed that they have failed the test and must be placed in some type of remediation in order to qualify for a graduation waiver.

The second group directly affected by summer learning loss is the educators who are directly involved, in and now held accountable for, student performance. With the introduction of ISTEP, IREAD, and End of Course Assessment (ECA) testing, educators have felt pressure to ensure that their students have met or exceeded the state mandated threshold for acceptable performance. With the new accountability vehicle such as RISE or equivalent models, teacher stress levels have increased markedly due to performance criteria imbedded in the evaluation rubrics. The increased levels of accountability and the

associated stress were listed as one of the main reasons for leaving the profession of teaching (Sass, Flores, Claeys, & Pérez, 2012).

RISE is an evaluation rubric used by many corporations in Indiana for the assessment and evaluation of teacher effectiveness. The rubric contains four categories of effectiveness: highly effective, effective, needs improvement, and ineffective. The effectiveness of instruction and procedures is delineated into four different domains: purposeful planning, effective instruction, leadership, and core professionalism. Within each domain, there is a breakdown of skills or methods to be rated by the evaluator, administrator, or coach, and this is accomplished through multiple classroom visits and conferences with educators to gauge effectiveness.

Domain four of the rubric deals with core professionalism of following routines and procedures and is a simple “meets” or “does not meet” professional expectations as delineated by the corporation. Failure in this category would mathematically ensure that a teacher would be placed at the minimum of the “Needs Improvement” category or “Ineffective.” The first two categories are acceptable classifications for continued employment; however, being classified as “Needs Improvement” or “Ineffective” places the educator in danger of loss of employment, and in accordance with Indiana Code 20-28-9-1.5, the teacher is ineligible for a salary increase the year following the evaluation.

Teachers from schools with demographic categories that statistically encounter difficulties meeting state mandated requirements face the problem of moving diverse groups of students to subject and grade level mastery and remediating those groups that have fallen behind over the course of the summer. Students who struggle with English

language acquisition are extremely vulnerable to failing the mandated End of Course Assessments due to vocabulary and comprehension knowledge skills needed to decode the questions presented on these exams.

School administrators at the building and corporation levels are also affected by the students who experience the loss of learning over the summer months. The need to provide interventions for these students, whether through summer school programs or remediation during the school year, creates stress on budgets and staffing.

Administrators are affected by new accountability standards, not only with dealing with increased frequency of teacher evaluations, but also with their evaluations tied to student performance data. Suggested guidelines by the Indiana Department of Education on the use of the principal's RISE rubric state that 30% of a principal's evaluation is affected by student performance on standardized tests, graduation rates, and other categories tied to student performance.

### **The Purpose of the Study**

This study has attempted to show the direct interrelation between summer learning loss, language acquisition, and the effectiveness of summer intervention programs in stemming the decay and regression in student achievement and progression. This study has focused on students who have been identified as English Language Learners and/or from Hispanic background and the effects, if any, that may come about from returning to homes where Spanish is the primary language. The significance of the study to schools is directed towards schools that have high ELL student populations and that see the importance in continued English language exposure.



Due to increases in educational accountability emanating from state legislatures, it has become imperative that schools analyze the learning needs of their students and commence taking steps to implement programs that meet the needs of those students. The use of statistical research that is based on data to identify areas of concern and the creation or implementation of programs that have been tested and have been proven to statistically improve the targeted areas have become the focus of schools and accreditation services such as the North Central Association.

Students who struggle with mastering the English language are at risk of failure on the multitude of state mandated testing. These tests can vary from ISTEP in grades three through eight, which do not have direct consequences to the students other than the stigma of failure, to IREAD in third grade that all students must pass or face the distinct possibility of being retained in the third grade while their peers move on. Students must pass the required ECA tests in Algebra 1 and English 10 or be forced into the waiver process to obtain a diploma. The system that requires student to: maintain a minimum of a C average in core classes required for graduation, sustain an attendance rate of 95% throughout high school, take the ECA test at least once a year, and attend all school provided ECA remediation. If a student does not pass the ECA or meet the requirements for a waiver, he or she is given a certificate of attendance as a culmination of thirteen years of schooling.

The issue schools encounter with ECA testing is that schools are evaluated on the first time testers; consequently even if a student passes the test prior to graduation, the school is assessed on the first failed attempt. The importance of students arriving to high school with the appropriate level of vocabulary and reading skills to be successful on the

ECA testing is a fundamental requirement if schools are to garner an adequate rating from standardized testing. The time frame from entering high school to the time of testing is too short for intervention programs to influence those students who are in the greatest danger of not passing, such as ELL. Many students after two years of ECA remediation struggle to pass the exam by their senior year of high school. Schools also are required to allocate precious financial resources to hire staff for ECA remediation in hopes of improving the graduation rate and lower the number of waivers issued. An elevated number of graduation waivers can be viewed by state auditors as an indicator of sub-standard academic performance or academic rigor.

### **Research Questions**

Research Question One: Do differences in language acquisition levels exist among elementary students enrolled in summer school as opposed to those who are not in summer school?

Research Question Two: Do those level differences increase over time as elementary students attend multiple years of summer school?

Research Question Three: Does summer school enrollment help students attain Level 5 language fluency as rated through LAS Links testing?

Research Question Four: Was there a significant cumulative language acquisition increase for English Language Learner students in kindergarten through third grade that attended multiple years of summer remediation programs?

### **Null Hypotheses**

H<sub>0</sub>1 There is no significant difference between students enrolled in summer school programs and students who were not enrolled in summer school programs on language acquisition.

H<sub>0</sub>2 There is no significant difference over time on language fluency acquisition as quantified by LAS Links testing between students who were enrolled in summer school programs and those who were not enrolled.

## **CHAPTER 2. REVIEW OF RELATED LITERATURE**

### **Introduction**

When elementary students in the researched corporation returned from the traditional American summer school break that averages 10-12 weeks (Ballinger, 2000), they did not immediately commence learning the curriculum for the current year. Students spent the first two weeks of the new academic year with learning interrupted by Guided Reading Level testing. The testing was to assess how much, if any, academic progress was lost during the summer break. The testing required the teacher to be out of the room to test students individually leaving the instruction of the classroom to an aide or substitute teacher (D. Schermerhorn, personal communication, April 10, 2011). Students returning from summer vacation would have an average reading level loss on the Guided Reading Level test of two to four levels. This level loss was not only experienced by the ENL (English as New Language) population but also by the low SES white students as well (J. DeBeck, personal communication, April 10, 2011).

According to interviews conducted with elementary teachers in the West Noble School Corporation, the demographic subgroups of Limited English (ELL), Hispanic and Low SES, as referenced by enrollment in the free and reduced lunch program, experience

the greatest summer learning loss (J. DeBeck, D. Schermerhorn, personal communication, April 10, 2011). The corporation in elementary grades had subgroup populations of Limited English 33%, Hispanic 47% and Low SES 71.2%. Corporation wide the district has a Hispanic enrollment of 45.6%, Limited English 30.5%, and Low SES 68% (Indiana Department of Education, 2011).

Students in the high-risk demographic categories of low socioeconomic status and English Language Learners (ELL or EL) are on the rise throughout Indiana. It must be noted that there are various ways of identifying those students who are learning English. The nomenclature from the state has evolved through the years with the latest transition from Limited English (LE) to English Language Learner (ELL). From this point onward, the researcher will use the identifier of English Language Learner (ELL). According to research on summer learning loss during the past seven years there has been an increase in the number of Indiana students in high-risk category placing a greater number in danger of falling behind academically and linguistically (Cooper, et al., 1996; Lawrence, 2012; Mraz, 2007).

While most school corporations within the state of Indiana may have experienced a slight increase in Hispanic or ELL students over the last decade, individual corporations, have seen a dramatic increase in the number of Hispanic and EL students. As a comparison, West Noble High School in 1978, according to reviews of the high school yearbook, *The Escalade*, had only ten students with surnames of Hispanic origin. During the 2011-12 school year, the Hispanic enrollment was 311 students or 41.9% of the student body of which 189 or 25.4% were classified as EL according to LAS testing.

With the implementation of the No Child Left Behind (NCLB) legislation, the A-F school rating system in conjunction with the teacher evaluation rubric and the implementation of Indiana's IREAD assessment systems, schools are looking for ways to improve educational practices to ensure that all demographic areas meet state and federal requirements. NCLB requires that states, after establishing a baseline of student achievement, develop a plan to have 100% of all students demonstrating mastery in the areas of reading/language arts, math, and science within twelve years of implementing the improvement plan.

The A-F grading system is an assessment of schools that gauges student growth in the areas of English/Language Arts and mathematics. Students are grouped according to their scores on the ISTEP/ECA standardized test, and then their growth is monitored for the course of the school year. Schools are either rewarded for student growth or penalized if there is a regression in scores. The state changed the scoring metric in 2012 to reflect what they deemed was a more equitable scale that rewards growth of students at the top and bottom of the achievement matrix.

The impact of the IREAD test on individual students is extraordinary in that students failing to pass the standardized test are in danger of being retained in the 3<sup>rd</sup> grade while their classmates progress to higher grades. The importance of students reading on grade level is supported by studies that indicate 1 in 6 students that are not reading at grade level by the end of third grade will not graduate high school (Smith, 2011). The long term-impact on students who have not passed the IREAD is not known nor is what impact this state-mandated exam will have on school corporations in terms of

Department of Education ratings, staffing, class sizes, and scheduling issues in a time of constricting budgets and intense competition for students.

The educational topic of summer learning loss can be divided into several distinct categories that are interrelated and dependent upon each other. The conversation starts with the discussion and research into the debate on balanced calendars. The proponents for a BC cite research that indicates that SLL (Summer Learning Loss) does occur and that those students from lower SES categories experienced more pronounced losses (Lawrence, 2012). Those opposed claim that when averaged, SLL does not occur and that in some cases certain areas of learning demonstrate learning increases over the summer months (Winter, 2005). The second part of the literature review researched at what level SLL takes place and what different demographics had been the focus of research.

### **Research Strategies**

Research for this study was done through electronic databases, internet research of relevant sites, and personal interviews. The electronic databases were accessed through Purdue libraries and included the key word searches: year-round education, balanced calendar, summer learning loss, and year-round schooling. The database filters used were EBSCO, Wilson, Proquest, and Purdue University libraries. The Internet was utilized to access data from the Indiana Department of Education website on relevant data on school corporations, applicable news, and educational websites that discussed educational issues and/or promoted year-round education. The use of the search term of Year-Round Education (YRE) or similar wording was implemented due to the relevance of the argument for a balanced calendar to offset summer learning loss.

### **Description of Literature: The Types of Literature Used**

The types of literature used in this review were meta-analytical studies, dissertations, and research articles along with journal articles from publications such as *School Administrator*, *Educational Leadership*, and *Catalyst for Change*.

The literature encountered in the research of this topic varied from political and social to the educational aspect of summer learning loss and year-round education. The political aspect, while not important in the scope of educational viability of a program, is extremely important in the transformational leadership aspect of converting from the traditional school calendar, which is a natural topic of conversation of this type of research. The types of literature found in educational journals varied in extremes from political rhetoric, where the content of the articles was based more on personal preference and inflammatory language than research. Other articles referenced the educational leadership aspect of how to approach a politically sensitive topic and promote what is deemed important for the education of students.

The second focus of research encountered was concentrated on the subject of summer learning loss and the comparison of data from traditional and non-traditional schedules (Ballinger, 2000; McMillen, 2001). The main findings of this aspect of the research were that while there was some conflict, most studies agree that there does appear to be summer learning loss and that some students tend to benefit from a BC (Cooper, et al., 1996)



### **Summer Learning Loss**

Arguments exist that learning loss does not exist or is negligible; some argue that there are actually gains in some areas (Winter, 2005). Winter's studies reflect previous findings that students may, at a minimum, experience no summer reading loss or an increase of up to four months increase on reading scores through the summer months (Mousley, 1973; White, 2008). Studies that demonstrate no learning loss or actual gains in achievement were focused on students of middle to high socioeconomic status (McMillen, 2001).

Other studies indicate the results of many of the studies were mixed; therefore, there was not a statistical significance stating that a BC improves student learning or retention (Cooper, et al., 2003). McMillen, in his 2001 study, put forth the assertion that in a comparison of traditional and BC schools in North Carolina there was not a statistically significant difference in the academic achievement of the students. However, the study did acknowledge that there was an indication that lower achieving students may benefit from the introduction of a balanced calendar. English Language Learners were not addressed in the study, but ethnicity, prior achievement, student gender, and parent education level were controlled variables (McMillen, 2001).

The studies that demonstrated a variance of results had a tendency to focus on regular education students in comparison to subgroups of the general student population such as special education. Shaw proposed that, in general, reading levels increased over the summer months; however, when the subgroup of special education students was pulled from the study, they demonstrated lower reading scores in the fall in comparison

to scores obtained in the spring (Shaw, 1982). These findings were also reported by Wintre in a study that focused on middle-income Caucasian students, but low SES and language learners were not included in the study (Wintre, 1986).

There are, nonetheless, a significant number of studies that demonstrate that summer learning loss does occur and that modifying learning times does have a positive impact on students enrolled in districts that use this type of educational study. In her study Morse, (as cited in McGlynn, 2002), demonstrated that students of higher SES did not experience summer learning loss comparable to those of lower SES who may lose as much as three months of schooling a year (Morse, 1992). This loss was also shown in multiple studies and affected both public to private schools. There was a general consensus that reading comprehension levels dropped over the course of a traditional summer vacation with low SES and special education students being exceptionally vulnerable (Cooper, et al., 1996).

### **Effectiveness of Summer Interventions to Prevent Summer Learning Loss**

The body of evidence suggests that BC schooling has positive effects on student learning when scores are compared to students with the same gender, SES, ethnicity and ability level. Scores received on the Texas Assessment of Academic Skills (TASS) in reading were higher for those students participating in a BC and showed that female and Hispanic students had gains in two years of the three-year study (Dunn, 1996). Perhaps the best reason for furthering research into the effects of a BC and summer intervention is found in the meta-analytical study headed by Cooper that found that .10 standard deviation loss from spring to fall testing. In addition, that evidence suggests that lower

SES students do receive benefit from modified calendars (Cooper, et al., 1996). Research also indicates there is a cumulative effect in summer learning loss and achievement loss increases when students are in high school. (Donohue & Miller, 2008).

Other studies indicate the cumulative effect of summer learning loss can be traced from first to ninth grade. Research demonstrated the gap in achievement, as quantified by California Achievement Test (CAT), for students entering into first grade was 42.98 points, but during the academic year all students, regardless of SES, learned at the same rate. However, by ninth grade the achievement gap attributed to summer learning loss had increased to 133.04 (Alexander, et al., 2007). This finding was supported by research studies documenting summer reading loss, specifically students from low SES status, which demonstrated that early and continued reading loss over summer breaks could accumulate to a gap of 1.5 years by the ninth grade (Mraz, 2007).

These findings are sustained by research that states 80% of attainment differences between students of different SES and racial backgrounds can be attributed to summer learning loss (Heyns, 1987). Research conducted by Sanberg delivered mixed findings with second and third grade students demonstrating a loss of reading fluency over the summer while fourth and fifth grade students recorded slight increases. However, students of lower SES status tended to regress over the summer and required approximately six weeks of the calendar school year to recover the loss. The loss in the primary years created a reading discrepancy of two to three years by high school (Sandberg Patton & Reschly, 2013)

## Discussion

The evidence indicates summer learning loss does occur and in different segments of the student population it is more prevalent and pronounced. Studies tend to demonstrate that low SES families are affected to a greater degree than those from middle to high SES. There are several inconsistencies in the variables of the studies involving testing. In many cases, the studies state that summer learning loss does not occur. In studies reporting no summer learning loss, there are inconsistencies in the manner by which they were defined and measured.

Perhaps the largest incongruity was that student testing in the spring occurred several weeks before school ended for the summer, and the fall testing may not have occurred until four weeks into the new school year (Cooper, et al., 1996; Heyns, 1987). Eight to nine weeks of learning may occur in the testing window, which creates conflation of scores and skews the findings that learning loss does or does not take place during the summer (Borman, Benson, & Overman, 2005).

The research indicates that students from low SES were affected to a greater degree than their more affluent counterparts; however, there was little mention of the impact of summer learning loss on students who also faced the barrier of language acquisition (Cooper, Charlton, Valentine, Muhlenbruck, & Borman, 2000). One study concentrated on disadvantaged Mexican-American families, and the results showed that these students lost .4 of a standard deviation in reading over the course of the summer (Cooper, et al., 1996). All studies focused on math and reading scores, and these two areas were broken down into their component parts. However, the area of reading loss

was not specifically or adequately addressed in connection with students of low SES and students identified as English Language Learner (ELL). According to the 2010 Census, the Hispanic population in the United States increased from the 2000 census by 15.2 million with many of these immigrants residing in communities with existing Hispanic populations (US Census Bureau). This population increase has caused demographic shifts in school corporations that must find new ways to meet AYP.

### **Suggestions for Future Research**

The acceptance of the reality of summer learning loss has been well documented in recent years, but the research has failed to address a growing segment of the student population in the United States. Summer learning loss within the ELL student population needs to be researched in greater detail due to the influx of immigrants from Spanish speaking countries and the accompanying educational issues. Comprehensive research needs to be conducted that will address the issue of summer learning loss in the context of ELL learners, SES category, parental educational levels, and language spoken in households. Research indicated students from homes where English is not the primary language spoken suffer a greater vocabulary loss than those who have English as their primary language (Lawrence, 2012).

The effectiveness of summer school programs in attenuating student learning loss during the summer months along with the remediation effects of said programs needs to be studied in depth. Research indicates that students regardless of their SES stratification learn at the same rate during the academic school year, but that that trajectory is offset by the loss of learning that occurs in the summertime (Donohue & Miller, 2008). The

effectiveness of a BC in halting or reducing the effects of summer learning loss has been documented. However, the implementation of such a politically divisive subject is not possible in many districts. The research flaw of testing times needs to be eliminated or controlled to a greater extent to ensure that these data are not corrupted by conflation.

Research appears to be deficient in the documented effects of SLL and the influence of summer school in the demographic categories of students who are not only located in the lower SES categories, but are also English Language Learners who return to homes where Spanish is the primary spoken language. West Noble Elementary School, during the 2011-12 school year, had a Hispanic student population of 45.2% with 26% of those students identified as English Language Learners. Principal, Brian Shepherd, indicated in an interview that 50% of the Hispanic students return to homes where English is not the primary language (B. Shepherd, personal communication, November 3, 2012).

In recent years the educational issue of summer learning loss has been researched to a limited extent within certain demographic categories. Nonetheless, research would benefit from tracking students over multiple years to ascertain whether summer school has an effect on these demographic categories and whether there is a long term benefit to those students who attend summer school. The research should evaluate test scores on standardized tests such as ISTEP and IREAD and also include language acquisition evaluators. This builds upon research that indicated academic vocabulary grew at a faster rate in grades two and four with students who resided in homes where English was the primary language spoken compared to homes where a language other than English was

spoken (Lawrence, 2012). Vocabulary acquisition- especially academic- is an integral key to success not only in the classroom but also on the standardized exams such as ISTEP, IREAD, and End of Course Assessments or ECA (Taboada, 2011).

### **CHAPTER 3. METHODOLOGY**

The methodology for this research was chosen to separate effects on language acquisition measures by summer school enrollment on English Language Learner populations. A longitudinal study was performed to assess performance scores for both students attending and not attending summer school were analyzed to establish what effect if any, attendance had on performance scores. T-tests were performed to assess differences between groups. A regression analysis was also performed to measure the long-term effect of summer school attendance on language acquisition scores.

After controlling for ethnicity and initial language acquisition scores:

Research Question One: Do differences in language acquisition levels exist among elementary students enrolled in summer school as opposed to those who are not in summer school?

Research Question Two: Do those level differences increase over time as elementary students attend multiple years of summer school?

Research Question Three: Does summer school enrollment help students attain Level 5 language fluency as rated through LAS Links testing?



Research Question Four: Was there a significant cumulative language acquisition increase for English Language Learner students in kindergarten through third grade who attended multiple years of summer remediation programs?

### **Null Hypotheses**

H<sub>0</sub>1 There is no significant difference between students enrolled in summer school programs and students who were not enrolled in summer school on language acquisition.

H<sub>0</sub>2 There is no significant difference over time on language fluency acquisition as quantified by LAS Links testing between students who were enrolled in summer school programs and those who were not enrolled.

This study has attempted to show the direct interrelation between summer learning loss, language acquisition, and the effectiveness of summer intervention programs in stemming the decay and regression in student achievement and progression. This study has focused on students who have been identified as English Language Learners and or from Hispanic background and the effects, if any, that may come about from returning to homes where Spanish is the primary language spoken. The significance of the study to schools is directed towards schools that have high ELL student populations and that view the importance of continued English Language exposure.

### **The Setting**

Research data were drawn from an elementary student body of 576 students that was 39.8% (229) Hispanic of which 65% (149) is ELL (English Language Learners). The overall enrollment in the corporation was 2,478 with 45.6% of Hispanic origin and an

ELL population of 30.5%. The socioeconomic status of the elementary student body included 70.6% who qualified for free and reduced meals and textbooks. The academic progress of the school has improved over the last several years but has failed to meet requirements in the 2010-11 school year with the PL 221 rating of academic progress and AYP passing certification in 19 of the 21 categories.

### **The Participants**

The participants in the research study were students of Hispanic origin who had been placed into the ELL (English Language Learner) program through language acquisition and proficiency testing. The participants were from grades kindergarten through third who had been recommended to attend summer school. The age range for the participants was from ages five through nine with gender not controlled by the researcher. The number of participants was 349 students. A participant control group consisted of students with the same demographics who had not received the intervention of attending summer school but would have taken the same assessment vehicle. The participants were selected through the use of convenience sampling.

### **Measures**

The research used several different data points through consecutive years to determine the immediate and cumulative effect of summer learning loss (SLL) and in turn, the effectiveness of summer school to counter SLL's effect on language acquisition over the same time period. These data points were analyzed over several years to evaluate the cumulative effect of SLL.

All teachers who administer the LAS test were trained and certified to administer the LAS Links testing by the literacy coordinator to ensure testing validity.

Language Assessment Scale (LAS) Links placement testing was used to evaluate the language acquisition skills of the students. LAS Links testing included evaluations and classifications in the areas of reading, writing, listening, speaking, and comprehension. Students were rated on a language proficiency scale from 1-5, which correlates to Beginning, Early Intermediate, Intermediate, Proficiency, and Above Proficient in each specific area with 1 being less than fundamental language skills and a rating of 5 as fluent. All scores were then averaged to give an overall LAS Links score. When students qualified as level 5 learners, they did not qualify for modifications or accommodations such as extended time or use of a dictionary on standardized tests or local assessments.

LAS Links testing was given in the spring and scores were recorded and used to place students in the appropriate categories for the following school year. LAS scores were then used to create Language Emergent Plan (LEP) that was individualized to the student depending on classified need. The LEP was then made available to all staff to ensure that all modifications and accommodations were in place. All of the assessment tests were in and have been in use by the school corporation for numerous years with the data archived in digital and paper format.

## **Procedure**

The intervention was the summer school program that was provided by the school corporation at no expense to participants. The director, teachers, and aides were school corporation employees, and the curriculum was approved by the corporation curriculum director. The intervention was the continued and systematic exposure to the English language. The program location varied between different buildings within the corporation with bussing and meals provided at no expense to the participants.

These data included attendance rates and LAS testing levels. Summer school was not a requirement for students, but was recommended by their classroom teachers and administrators after careful review of attainment levels and classroom performance. The summer school program was approximately four weeks in duration with students attending six hours per day. The day was divided between academic remediation and social enrichment activities.

Demographic data on students were available through the Indiana Department of Education, the student data management software that was currently in use by the corporation, and the records compiled by the summer school program director. Relevant data on community statistics were also analyzed for impact on students learning.

A longitudinal observational study was conducted using data obtained from the school records combining LAS data with demographic student data. The data consisted of 349 elementary students tracked longitudinally from 2009 to 2012. All students were in grades kindergarten through third grade as of 2009. The data were comprehensive

consisting of demographic variables, which included gender, age, IEP status, free lunch status, summer school attendance, as well as all LAS scores including raw and overall language levels. The LAS scores were broken down into six categories including listening, speaking, reading, writing, comprehension, and oral with an overall combined score as well.

Experimental Group      O — X — O

Control Group            O ————— O

Simple statistics were calculated for all of the variables. An alpha level of 0.05 was used to determine all significance levels. T-tests were performed to assess the differences among summer school students compared to non-summer school students by year.

### **Limitations**

The threats to the internal validity of the research were:

History- Events beyond the control of the researcher such as family experiences or teacher assignment.

Maturation- Due to the longitudinal nature of the research, students matured and progressed at different rates, which will have had an influence on the results. In addition, the research will have covered multiple grade levels, which could have produced results that were influenced by maturation differences in grade levels.

Selection- The assignment of students to the experimental group based on academic performance during the school year could combine students with differing learning issues such as special education students, behavior problems, or with language acquisition deficiencies. This could adversely affect results of the intervention.

Mortality- This will be perhaps the greatest threat to validity. Student attendance or completion of the summer school program will vary among participants and will have an influence on the results obtained from the intervention. Also, the research groups have a tendency to be transient in nature with students moving to and from Mexico and Texas frequently. Due to the transience, it is difficult to assess or verify enrollment in other locations and this could influence long-term results.

Instrumentation- The use of LAS testing as an evaluation of language attainment has the probability of modification over the course of implementation which could impact the results of data obtained. The variation in time between test administrations is also a concern to the researcher.

Size- The relatively small number of participants involved in the study makes it difficult to generalize the findings to the universal school setting.

Isolated district- The use of one school in rural northeast Indiana is a severe limitation on the study. The limited demographics of the study such as poverty, setting, school calendar creates a concern that the results cannot be extrapolated to a broad educational setting.

## **CHAPTER 4. STUDY RESULTS**

### **Introduction**

With increased emphasis on improvements in education and balanced calendars, there is an interest in exploring the effectiveness of summer school in increasing language learning improvements among elementary students. It is of interest whether there is a notable improvement over time between summer school students as compared to non-summer school students.

### **Purpose**

The specific objective of this analysis was to produce the data analysis and results to answer the following research questions:

Research Question One: Do differences in language acquisition levels exist among elementary students enrolled in summer school as opposed to those who are not in summer school?

Research Question Two: Do those level differences increase over time as elementary students attend multiple years of summer school?

Research Question Three: Does summer school enrollment help students attain Level 5 language fluency as rated through LAS Links testing?

Research Question Four: Was there a significant cumulative language acquisition increase for English Language Learner elementary students who attended multiple years of summer remediation programs?

### **Methods**

A longitudinal observational study was conducted using data obtained from the school records combining LAS (Language Assessment Scale) data with demographic student data. These data consisted of 349 elementary students tracked longitudinally from 2009 to 2012. Data were collected from a rural northeastern Indiana school system that had a total enrollment of 2,581 with an ELL population of 800 students or 31% of total enrollment. The total free and reduced lunch population was 1,609 or 62% of the total student enrollment. All students studied were in grades kindergarten through third grade as of 2009. The summer school data were comprehensive consisting of demographic variables which included gender, age, IEP status, free lunch status, summer school attendance, as well as all LAS scores including raw and overall language levels. The LAS scores were broken down into six categories including listening, speaking, reading, writing, comprehension, and oral with an overall combined score as well.

Simple statistics were calculated for all of the variables. An alpha level of 0.05 was used to determine all significance levels. T-tests were performed to assess the differences among summer school students compared to non-summer school students by year. A general linear mixed model was performed to analyze the effect of time and summer school on the scores.



## Results

The data consists of 349 students who were in kindergarten to third grade in 2009. These students were followed through 2012. Not all students had complete data due to relocating, etc. In 2009, there were 72 kindergarteners, 86 first graders, 96 second graders, and 95 third graders.

The following table describes the demographics of the students by grade as of 2009 as described by the raw count and percent:

*Table 1. Gender, IEP status, and free/reduced lunch by grade in 2009*

Demographic Counts			
Grade	Male	IEP	Free/Reduced Lunch
Kindergarten	34 (47.2%)	4 (5.6%)	55 (76.4%)
First	37 (43.0%)	13 (15.1%)	68 (79.1%)
Second	48 (50.0%)	5 (5.2%)	75 (78.1%)
Third	46 (48.4%)	10 (10.5%)	82 (86.3%)

The students are fairly balanced by gender, but IEP status varies with grade. A large amount of the students qualify for either free or reduced lunch for each grade. Overall the four grades average 79.98% of students being on the free or reduced lunch program.

The following table describes each grade's summer school status by grade in 2009. The summer school indicator is just a yes/no indicator variable which designates those students who were in summer school at least once from 2009-2012. The multiple

summer school variable indicates the number of students who took summer school more than once in the 2009-2012 study time.

*Table 2. Counts and percentages Summer School variables by grade*

Grade	SS (Count/ %)	Multiple SS (Count/%)
Kindergarten	38 (52.8%)	25(34.7%)
First	45 (52.3%)	28 (32.5%)
Second	50 (52.1%)	24 (25.0%)
Third	37 (38.9%)	12 (12.6%)

The above table shows that there are significantly fewer students in summer school and taking summer school multiple times as designated by percentages for the third grade cohort. As for the other grades, all are similar with about 52% of the students taking summer school at some point during the study with an average of about 30% of those students taking summer school multiple times.

A t-test controlling for the Type I comparison-wise error rate indicated that there was a significant difference in LAS overall raw scores between students who were in summer school versus those who were not. The following table shows the average differences between those who were not in summer school and those who were in summer school, the associated t-value and degrees of freedom, as well as the p-value and indicator of significance. The grade at the left of the table is the students' grade as of 2009 and then that cohort is followed through 2010 and 2011. There were not enough data in 2012 for summer school students for a robust analysis using t-tests.

Table 3. *t*-test and *p*-values by year

	2009			2010			2011			
	Diff			Diff			Diff			P-
	n-y	T (df)	P-value	n-y	T (df)	P-value	n-y	T (df)		value
KG	28.47	4.07 (69)	0.0001	* 33.28	4.67 (64)	0.0001	* 28.93	4.09 (66)	0.0001	*
1st	18.97	3.20 (84)	0.0019	* 21.17	3.38 (84)	0.0011	* 15.97	2.46 (66)	0.0167	*
2nd	16.99	2.73 (94)	0.0076	* 18.02	4.62 (87)	<.0001	* 13.87	2.04 (78)	0.0443	*
3rd	8.16	1.43 (91)	0.1572	10.39	1.23 (79)	0.2219	14.06	1.86 (80)	0.067	

\* Indicates significance at a 0.05 alpha level

There is always a positive difference between the non-summer school students and summer school students, indicating that those who were not in summer school got better overall raw scores than did those in summer school. These differences were significant for the cohorts of students who were in kindergarten through second grade in 2009. The differences decrease from the younger cohort to the older cohort, but it is not necessarily a significant decrease by year.

This then leads to the question of whether there is an improvement in scores as the students attend summer school multiple times over the duration of the study. The above test is comparing those students who have ever been in summer school at all versus never. A regression analysis was performed to assess the improvement with extra years of summer school on the overall raw test scores among only those students who took a summer school course at some point during the study time; it also controls for the improvement we saw above by grade. The test was significant indicating that both grade

and summer school count were significant to overall raw score (model  $F=295.17$ ,  $p<.0001$ ,  $R^2 =52\%$ ).

*Table 4. Regression model by summer school count and grade*

Regression for Overall Raw Score-Model				
Parameter	Estimate	Standard Error	T-Value	P-Value
Intercept	461.92	4.65	99.36	<0.0001
SS Count	-8.28	1.38	-6.00	<0.0001
Grade	22.8	1.10	20.25	<0.0001

The above table indicates that with every extra grade level, students' raw scores increase by about 22.28 points and with every extra year of summer school their score decrease by 8.28 points. Baseline LAS scores increase by grade by design. For example, the lowest score for the tests given to kindergartners and first graders ranges from 260-572 but increases to 297-602 for second and third graders. This model controls for that increase. The students who are taking summer school multiple times are the ones who need the most remedial help; therefore, the lower their scores, the more they will be referred to summer school repeatedly.

Since the repeated summer school data show that scores decrease the more students attend summer school, the research looked at the analysis of one cohort of students and their increase the year directly following their summer school experience. The following analysis consists of 50 first graders who took the LAS test in 2009 and 2010. The variable increase is the difference between those two LAS scores. The t-test comparing the summer school versus no summer school students' raw test score increase

showed no significant difference in the increase that following year ( $t=0.22$ ,  $df=48$ ,  $p=0.8286$ ).

Since the students in summer school have significantly lower levels than those who did not take summer school and the year immediately following shows no significant increase, the focus shifted from raw scores of summer school students to assessing overall levels of students and bridging the gap between Level 4 and Level 5 students. The following table illustrates the level 3, 4, and 5 students' progress over time by cohort.

*Table 5. Percentages of LAS level grade and year 2009*

	2009		
	Level 3	Level 4	Level 5
KG	44%	3%	0%
1 <sup>ST</sup>	27%	52%	14%
2 <sup>ND</sup>	24%	53%	14%
3 <sup>rd</sup>	18%	60%	19%

*Table 6. Percentages of LAS level grade and year 2010*

	2010		
	Level 3	Level 4	Level 5
KG	26%	41%	30%
1 <sup>ST</sup>	16%	41%	37%
2 <sup>ND</sup>	8%	61%	31%
3 <sup>rd</sup>	11%	53%	30%

*Table 7. Percentages of LAS level grade and year 2011*

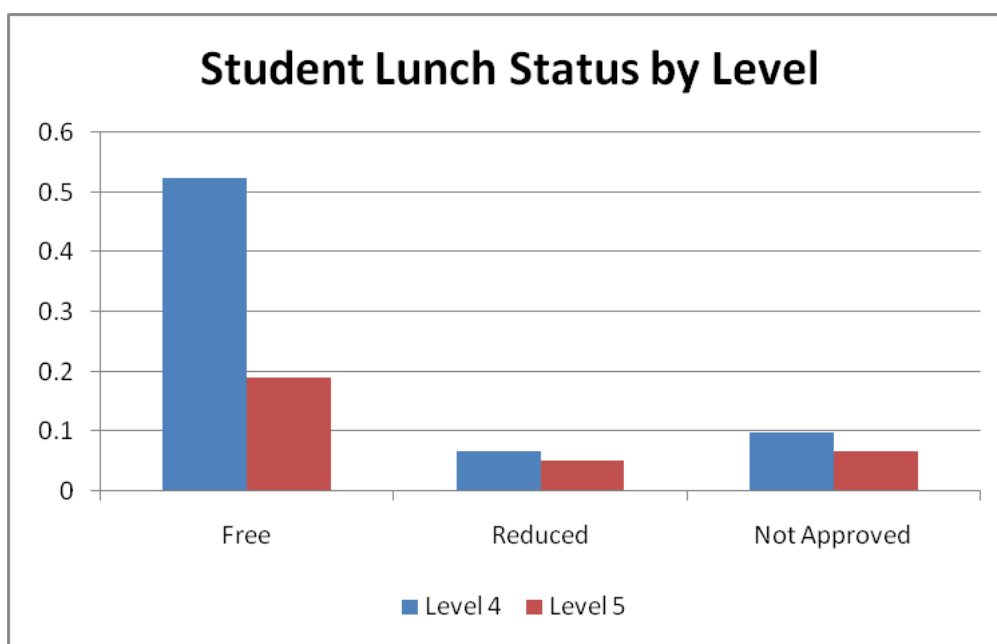
	2011		
	Level 3	Level 4	Level 5
KG	22%	30%	46%
1 <sup>ST</sup>	6%	52%	37%
2 <sup>ND</sup>	8%	65%	23%
3 <sup>rd</sup>	21%	62%	5%

*Table 8. Percentages of LAS level grade and year 2012*

	2012		
	Level 3	Level 4	Level 5
KG	5%	60%	32%
1 <sup>ST</sup>	4%	64%	12%
2 <sup>ND</sup>	0%	52%	44%
3 <sup>rd</sup>	17%	67%	13%

The above tables demonstrate the progression of student levels by year and by grade. What is shown is that over time these students are progressing from Level 3 to Level 4, but a majority of the students are unable to make the transition from Level 4 to Level 5. As time and age progress, an average of 60% of students are in Level 4 and about 25% are in Level 5 for both 2011 and 2012, which is showing that there is stagnancy in growth from 4 to 5. Sixty percent of those students in Level 4 or 5 do not take summer school courses. Within the 40% of students that do take summer school, 80% of them are in Level 4. What is of interest is that even though the majority of those students among the 4's and 5's who take summer school are Level 4 students, they are unable to progress to Level 5.

Higher LAS level students are evenly distributed across gender. What is of interest is the distribution of students in the free lunch program. The following bar graph shows the Level 4 students and Level 5 students across free/reduced lunch and no program.



*Figure 1: Percent of students in each lunch status by LAS level*

This graph demonstrates that not only are a majority of students on free lunch status, but about 50% of them are LAS level 4. This could be a contributing factor to preventing students from increasing to a higher level.

### **Summary**

Overall, there was a significant difference between the summer elementary school students and the non-summer elementary school students' LAS raw scores, with the non-summer school students out performing their summer school counterparts. Those students recommended for summer school were those who were identified as needing additional

academic and linguistic remedial help, which was reflected in these data. The students' improvements from LAS level to level were an area identified as needing remediation. The students were stagnating at Level 4, and most were unable to make that additional step to Level 5 that according to LAS Links is considered a fluent English learner.



## **CHAPTER 5.**

### **DISCUSSIONS, RECOMMENDATIONS, AND CONCLUSIONS**

The purpose of this study was to research current calendar and instructional configurations used by school corporations in the context of the increasing population of English Language Learners. Already academically at risk, this rapidly growing ELL student population faces additional challenges due to regression of English language acquisition over the average ten-week agrarian summer break when they return to homes in which Spanish is the primary language spoken. While the influence of summer learning loss has been investigated in different contexts with different populations of students, (Alexander, et al., 2007; Cooper, et al., 2003; Geoffrey D. Borman, et al., 2005) little has been done to study the effect of summer learning loss with ELL students. ELL elementary students who return from summer break can experience summer reading losses of one quarter to one half a grade level (D. Schermerhorn, personal communication, April 10, 2011). Fifty-eight percent of students who come from low Socioeconomic Status (SES) background fall below fourth grade proficiency levels in reading and vocabulary with the grade levels of second and fourth being the most important for vocabulary development (Alexander, et al., 2007; Mraz, 2007).

The summer learning loss experienced by the students requires that limited class time must be utilized for remediation. This also creates a quandary for the educators: determining if the entire class should wait for the struggling readers, or differentiating instruction and causing the achievement gap to widen, or placing struggling readers in segregated instructional groupings. Each of the choices creates an educational dilemma for at least one group of students. Standardized tests such as ISTEP, Indiana's high stakes achievement test, and IREAD, Indiana's high stakes third grade reading test, are based on the standards for each particular grade level; therefore, a student theoretically should master all the standards for a particular grade prior to taking the exam. However, an ELL student who regresses one quarter to one half a grade level over the course of the summer will need to regain all lost material plus keep pace and acquire current grade level knowledge.

### **Research Questions, Findings, and Discussion**

Research Question One: Do differences in language acquisition levels exist among elementary students enrolled in summer school as opposed to those who are not in summer school?

*Table 9. t-test and p-values by year*

	2009			2010			2011			
	Diff			Diff			Diff			P-
	n-y	T (df)	P-value	n-y	T (df)	P-value	n-y	T (df)		value
KG	28.47	4.07 (69)	0.0001	* 33.28	4.67 (64)	0.0001	* 28.93	4.09 (66)	0.0001	*
1st	18.97	3.20 (84)	0.0019	* 21.17	3.38 (84)	0.0011	* 15.97	2.46 (66)	0.0167	*
2nd	16.99	2.73 (94)	0.0076	* 18.02	4.62 (87)	<.0001	* 13.87	2.04 (78)	0.0443	*
3rd	8.16	1.43 (91)	0.1572	10.39	1.23 (79)	0.2219	14.06	1.86 (80)	0.067	

\* Indicates significance at a 0.05 alpha level

As indicated by table 9, research has indicated that there is a significant difference between students who attended summer school and those who did not. Students, after attending the first year of summer school, tested below their peers who were not attending.

The curriculum that was implemented during the years of the research was not specifically directed towards language acquisition or reinforcement. The requirement for students to pass IREAD before promotion to fourth grade changed the researched corporation's 2012 summer school focus to directed reading strategies. There was insufficient data to perform an analysis of long term implications of the curriculum shift.

Research Question Two: Do those level differences increase over time as elementary students attend multiple years of summer school?

*Table 10. Regression model by summer school count and grade*

Regression for Overall Raw Score-Model				
Parameter	Estimate	Standard Error	T-Value	P-Value
Intercept	461.92	4.65	99.36	<0.0001
SS Count	-8.28	1.38	-6.00	<0.0001
Grade	22.8	1.10	20.25	<0.0001

The regression analysis data (see Table 10) demonstrate that for each year of additional educational attainment students' scores will on average increase by 22.28 points. An increase would be expected due to the added educational time of an entire school year between LAS testing windows. The findings of research question two reinforce the results of research that student scores on assessment vehicles continually increase through the passage of time (McMillen, 2001). The numerous interventions and modifications to not only the curriculum but the staffing of schools would tend to lead to the assumption that student scores should increase with the passage of time.

Students' participation in classrooms where grade level appropriate curriculum was being taught could account for the increases that were demonstrated in the research. Students in the researched corporation are not segregated nor are ELL students placed into classrooms where all students are ELL. All instruction is delivered in English with

an ELL instructional aide placed in the classroom to assist students. This also allows for ELL aides to be used to their fullest capacity.

Students were grouped in clusters and placed in classrooms where the teachers were chosen due to their ability to work with diverse cross sections of the student body and differentiate instruction to meet individual student needs. Teachers trained to identify the unique needs of ELL students were cognizant of the fact that acquiring a second language differs from first language acquisition. The understanding of the underlying structures of language acquisition allowed for earlier identification and intervention into language difficulties experienced by ELL students (Newman, 2010).

Students acquiring a second language should be assessed in a different manner than their native English speaking peers. Teachers trained to differentiate not only the classroom instruction, but also the assessment protocols have a better cognizant awareness of what level of intervention, if any, is needed for each individual student (Molle, 2013). Training and knowledge have the added potential benefit of decreased referrals of ELL students for special education testing (Sullivan, 2011).

Each building has a licensed English Language Learner teacher on staff who has the responsibilities of coordinating all ELL training, creating the students' Individualized Language Plan (ILP), assisting teachers in appropriate modifications to instructions to classroom instruction and assessment, and LAS testing of students. The ELL teacher is also responsible for creating a master list of ELL students and their accommodations and modifications that is shared on the school's public drive so all teachers will be able to make appropriate individualized adjustments for each student.

*Table 11. Regression model by summer school count and grade*

Regression for Overall Raw Score-Model				
Parameter	Estimate	Standard Error	T-Value	P-Value
Intercept	461.92	4.65	99.36	<0.0001
SS Count	-8.28	1.38	-6.00	<0.0001
Grade	22.8	1.10	20.25	<0.0001

What was significant in these data is that those students that attended multiple years of summer school demonstrated a loss of 8.28 points for each year of summer school attended. ( $t=20.25$ ,  $p<0.0001$ , alpha level 0.05). The regression analysis model if extrapolated over time would demonstrate a cumulative loss of 33.12 points on the LAS assessment. This loss is almost equivalent to the expected language acquisition growth for one year.

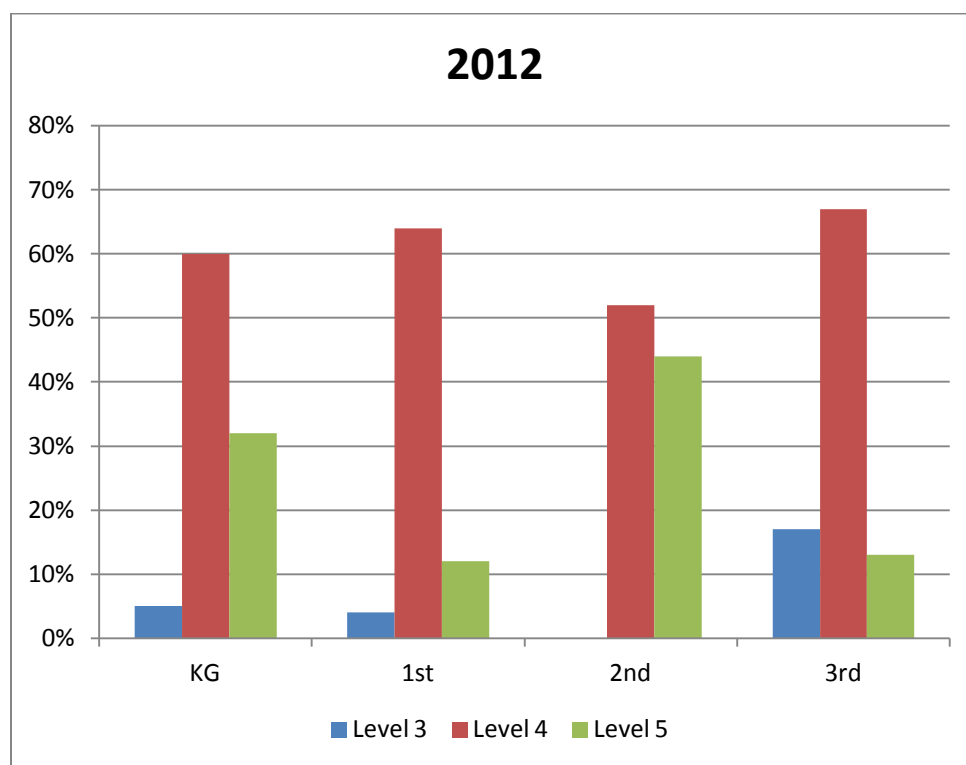
This lack of linguistic development as quantified through the use of standardized testing leads to the assumption that this decrease could be the result of the academic deficiencies of the students chosen for summer school. When analyzing the students that were recommended to attend summer school, there was a conscious choice of which students would and would not be recommended to attend. Students who were identified as lagging behind their peers in academic and language development were the ones selected to attend.

The choice of students who were academically and linguistically behind leads to the supposition that these students would naturally fall behind the more advanced students. The research did not take into account the home condition of the individual

students as to parental involvement in the educational process of their child. Parental involvement has demonstrated a positive correlation with student gains in English acquisition (Jung Won & Suhyun, 2010). The students' classroom performances were not used to identify whether or not those students attending summer school were consequentially also lagging behind their peers in assessments administered in the classroom. It would appear logical that there would be corresponding drops in scores even with the ELL support mechanisms in place within the classroom.

Students who struggle academically in middle and high school as quantified by student grade point average have an increased likelihood of dropping out of school. Students who failed English or math in sixth grade accounted for 20% of dropouts. As academic requirements increase in rigor and complexity in high school, declining grade point averages were also identified as indicators of the increased likelihood of a student dropping out of school. (Bowers, 2010; Sheng, 2011).

Research Question Three: Does summer school enrollment help students attain Level 5 language fluency as rated through LAS Links testing?



*Figure 2. LAS Levels by Grade level as listed by cohort year of 2009*

As noted in the figure above, 60% of students remain at Level 4 with only 25% progressing to the classification of Level 5, which is considered fluent on the LAS scale. Of the students in the study who were enrolled in summer school, only 27 students attained the Level 5 classification and 108 attaining a Level 4. Of the 349 students enrolled in summer school, only 30.9% attained an LAS classification of a 4 or 5.

This leads to the conjecture that not only does the assignment to summer school not assist students in progressing along with their peers, but that it also did not help them ultimately attain fluency in the English language. What these data appear to lead to is that selecting those students with the greatest academic need and then focusing time and financial resources exclusively to them does not guarantee that this asset allocation



produces significant results (Zvoch, 2011). Considering that 60% of the students scoring a Level 4 or 5 did not attend summer school could lead to the conclusions:

1. Summer school is not a valid intervention with ELL students in the acquisition of English as has been indicated for the general student population in other research (Burkam, Ready, Lee, & LoGerfo, 2004; Heyns, 1987).
2. Students identified as at risk will continue to fall behind their peers as noted in the regression model; therefore, summer school may not be a deterrent to that regression (Mancilla-Martinez & Lesaux, 2011).
3. Limited financial, staffing, and facility resources could be focused on those students who are demonstrating progression through the levels of English acquisition. Students not identified as academically at risk demonstrated significant growth in reading fluency when participating in directed summer school reading programs. However this approach has the potential to widen the achievement gap between lower performing students and their academically more advanced peers (Zvoch & Stevens, 2013).
4. Age and grade level attainment appear to be a significant factor in language improvement, not summer school remediation.

Research Question Four: Was there a significant cumulative language acquisition increase for English Language Learner elementary students who attended multiple years of summer remediation programs?

This study has demonstrated that selecting students who are behind academically and linguistically to attend summer school produced limited benefits for the students or

the school corporation. In the course of researching English language acquisition and summer school, the research identified an area of critical importance to not only the students, but the corporation as a whole. English Language Learner students, in general, are not making the transition from Level 4 language learners to Level 5, which is considered fluent in the English language as quantified by LAS Links testing. This has the adverse effect of placing those students demonstrating deficiencies in scholastic performance in greater danger of dropping out of school (Fernandez, Paulsen, & Hirano-Nakanishi, 1989).

When analyzing the entire grade levels of the cohort groups selected for research, it should be noted that of the 349 students listed as ELL 168 or 48% of these students either remained at the same LAS level or regressed at least one level from the 2011 to 2012 testing sessions. These findings were also noted in grades nine through twelve with a total of 295 students identified as ELL with 84 students remaining at the same level and 26 students regressing at least one level from 2011 to 2012 testing window. This was a 40.2% stagnation or regression of student performance. As a corporation, there was a total of 919 ELL students with 105 (11.4%) regressing at least one LAS level and 272 (29.5%) maintaining the level from the previous testing year.

The stagnation and regression of LAS levels are consistent across the grade levels. When looking at these performance data at the high school level, the question of student effort must be addressed to ascertain whether the level achieved is a true assessment of the students' language abilities. Students, through their Individualized Language Plans, are granted many different accommodations and modifications to

assessments such as extending time for testing, having tests read by an aide, or limiting number of questions. Grouped by ELL classification, students were clustered in graduation diploma requirement classes, ECA classes, and ELL study halls. The ELL study hall was staffed by an instructional aide. Students were also given an ELL class that met the same graduation requirements of an English class. The class was taught by a dual licensed ELL/English teacher. It was not researched as to whether these additional factors influenced student performance.

### **Null Hypothesis Findings**

H<sub>0</sub>1 There is no significant difference between students enrolled in summer school programs and students who were not enrolled in summer school on language acquisition. Failed to reject null hypothesis.

H<sub>0</sub>2 There is no significant difference over time on language fluency acquisition as quantified by LAS Links testing between students who were enrolled in summer school programs and those who were not enrolled. Failed to reject null hypothesis.

### **Limitations of the Study**

This study was limited by the selection process for enrollment into the summer school program. The study also did not look at the curriculum or focus of the summer school program, but only the exposure to the English language through the classroom instruction and enrichment programs. It should be noted that the curriculum focus changed from year to year with no specific focus on English attainment. The study was also limited to elementary grade levels of kindergarten through third grade and only from a single rural school in northeast Indiana.

### **Recommendations and Implications**

1. To fully quantify the influence of summer school on the acquisition of the English language, future studies will need to do a comprehensive study that should include students from all academic achievement levels. Pre and post summer assessments should be conducted to gauge whether language acquisition improves through the course of the summer. The results of a quantitative assessment such as LAS Links should be used to gauge the students' progression or regression as compared to non-summer school data.
2. A second area of future research needing to be done is at what grade level summer intervention is most effective. With limited budgets, schools may need to target the grade levels that demonstrate the greatest potential growth in student scores.
3. The third area of future research would be in the study of student self-efficacy in relation to being selected for participation in summer school remediation programs.

How do students feel about summer school?

Is being selected for summer school an indicator to the students that they are failing and academically behind their peers?

Is being selected for summer school a self-fulfilling prediction that the assignment to summer school is a foreshadowing of failure?

What are the parents'/guardians' attitudes towards summer school? Is it viewed more as a child care option or educational opportunity?

4. The fourth area of research would be the implementation of a balanced calendar to study the influence of this type of educational calendar schedule on language acquisition of ELL students.

### **Conclusion**

The large influx of language minority immigrants into the United States has created large demographic shifts in certain areas of the country and within certain school districts. The necessity of schools to ensure that all students reach proficiency levels that ensure the students are able to pass state mandated exams can be a financial and educational burden. Studies have been conducted to research the effects of summer learning loss with the concentration focused on reading and low income students. Numerous studies have been conducted that demonstrate the effectiveness of summer reading programs that were implemented through the collaboration of parents, educators, and organizations (Fairchild & Smink, 2010; Jehlen, 2008).

The programs implemented and researched relied on the cooperation of parents for the educational interventions implemented. The studies did not address if those interventions would have been successful when the parental component was linguistically incapable of providing the needed support in the home environment. This study has attempted to examine the influence of summer school on the language acquisition among students classified as English Language Learners. The study also examined the use of balanced calendars as a way to counter summer learning loss.

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